CLAIMS

What is claimed is:

1.   A method comprising administering to an individual an effective amount of a nucleic acid encoding a precursor glucagon-like peptide 1 (GLP-1) comprising mammalian GLP- I linked to a heterologous signal sequence, wherein the precursor GLP-1 is cleaved *in vivo* or *ex vivo* which results in generation of activated GLP-1 in the individual, wherein the activated GLP-1 reduces plasma triglyceride levels.

2.   The method of Claim 1 wherein the individual has a blood sugar defect selected from the group consisting of: Type I diabetes and Type II diabetes.

3.   The method of Claim 1 wherein the nucleic acid encoding the precursor GLP-1 is administered in a viral vector.

4.   The method of Claim 1 wherein the nucleic acid encoding the precursor GLP-1 is administered as naked DNA.

5.   A method comprising administering to an individual an effective amount of a nucleic acid encoding a precursor glucagon-like peptide 1 (GLP-1) comprising mammalian GLP- I linked to a heterologous signal sequence, wherein the precursor GLP-1 is cleaved *in vivo* or *ex vivo* which results in generation of activated GLP-1 in the individual, wherein the activated GLP-1 reduces lipid accumulation in an organ.

6.   The method of Claim 5 wherein the individual has a blood sugar defect selected from the group consisting of: Type I diabetes and Type II diabetes.

7.   The method of Claim 5 wherein the nucleic acid encoding the precursor GLP-1 is administered in a viral vector.

8.   The method of Claim 5 wherein the nucleic acid encoding the precursor GLP-1 is administered as naked DNA.

9.   A method comprising administering to an individual an effective amount of an isolated host cell comprising a nucleic acid encoding a precursor GLP-1 comprising mammalian GLP-1 linked to a heterologous signal sequence, wherein the precursor GLP-1 is produced and cleaved within the host cell which results in generation of

activated GLP-1 in the individual,wherein the activated GLP-1 reduces lipid accumulation in an organ .

10.   The method of Claim 9 wherein the individual has a blood sugar defect selected from the group consisting of: Type I diabetes and Type II diabetes.

11.   The method of Claim 9 wherein the nucleic acid encoding the precursor GLP-1 is administered in a viral vector.

12.   The method of Claim 9 wherein the nucleic acid encoding the precursor GLP-1 is administered as naked DNA.

13.   A method comprising administering to an individual an effective amount of an isolated host cell comprising a nucleic acid encoding a precursor GLP-1 comprising mammalian GLP-1 linked to a heterologous signal sequence, wherein the precursor GLP-1 is produced and cleaved within the host cell which results in generation of activated GLP-1 in the individual,wherein the activated GLP-1 reduces reduces plasma triglyceride levels

14.   The method of Claim 13 wherein the individual has a blood sugar defect selected from the group consisting of: Type I diabetes and Type II diabetes.

15.   The method of Claim 13 wherein the nucleic acid encoding the precursor GLP-1 is administered in a viral vector.

16.   The method of Claim 13 wherein the nucleic acid encoding the precursor GLP-1 is administered as naked DNA.